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FEE TRANSMITTAL For FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 500.00

Complete if Known	
Application Number	10/648,014
Filing Date	26 August 2003
First Named Inventor	Latham
Examiner Name	Donald W. Underwood
Art Unit	3652
Attorney Docket No.	16210-US

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims		Extra Claims	Fee ($)		Fee Paid ($)
_____	- 20 or HP =	_____	x _____	=	_____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims		Extra Claims	Fee ($)		Fee Paid ($)
_____	- 3 or HP =	_____	x _____	=	_____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims	
Fee ($)	Fee Paid ($)
_____	_____

3. APPLICATION SIZE FEE

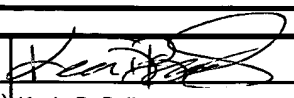
If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets		Extra Sheets		Number of each additional 50 or fraction thereof		Fee ($)		Fee Paid ($)
_____	- 100 =	_____	/ 50 =	_____	(round **up** to a whole number) x	_____	=	_____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	_____
Other (e.g., late filing surcharge): Appeal Brief	500.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 46,531	Telephone 309-765-4392
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.:	10/648,014
Filing Date:	26 August 2003
Applicant(s):	Latham
Attorney Docket No.:	16210-US
Confirmation No.:	33470
Title:	LINKAGE SUPPORT SYSTEM FOR A WORK VEHICLE
Examiner:	Donald W. Underwood
Art Unit:	3652

Certificate

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Carrie McKay
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Carrie McKay
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APPEAL BRIEF

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Sir:

This Appeal Brief is filed in connection with the present application within two months from the date of filing the Notice of Appeal. The Director is hereby authorized to charge Deposit Account No. 04-0525 for payment of the $500 fee for this Appeal Brief. It is respectfully requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response and shortages in other fees be charged, or any overpayment in fees be credited, to Deposit Account No. 04-0525.

REAL PARTY IN INTEREST

The real party in interest is Deere & Company pursuant to an assignment recorded at the United States Patent & Trademark Office on reel 014443 at frame 0757.

RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

STATUS OF CLAIMS

Claims 1-33 have been rejected and are being appealed.

STATUS OF AMENDMENTS

No amendment has been filed subsequent to the final rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

Independent Claim 1 Summary

In reference to pages 3-5, paragraphs 7-13, a linkage support system for a work vehicle is provided. The work vehicle (Figs. 1, 2, and 5) includes a frame (20), a work tool (70), and a linkage (80) for manipulating the work tool. The frame has a left mast portion (21b) and a right mast portion (21a) (Fig. 4). The linkage support system comprises at least one fastener (130a, 130b) (Fig. 6); a load bearing support (120, 122) (Fig. 6), the load bearing support being a portion of the frame located between the left mast portion and the right mast portion; and a linkage pin support (100) (Figs. 3-6), the linkage pin support removably attached to the load bearing support via the least one fastener (Fig. 6), the linkage coupled to the linkage pin support (Fig. 5).

Independent Claim 8 Summary

In reference to pages 3-5, paragraphs 7-13, a linkage support system for a work vehicle is provided. The work vehicle (Figs. 1, 2, and 5) includes a frame (20), a work tool (70), and a linkage (80) for manipulating the work tool. The frame has a left mast portion (21b) and a right mast portion (21a) (Fig. 4). The linkage support system comprises a linkage pin (110, 111) (Figs. 4 and 6); at least one fastener (130a, 130b) (Fig. 6); a load bearing support (120, 122) (Fig. 6), the load bearing support being a portion of the frame located between the left mast portion and the right mast portion (Fig. 4); and a linkage pin support (100) (Figs. 3-6), the linkage pin support removably attached to the load bearing support via the at least one fastener (Fig. 6), the linkage coupled to the linkage pin support, the linkage pin support

including an access hole (108) and an insertion hole (107) (Fig. 6), the linkage pin being assembled to the linkage pin support by transporting the linkage pin through the access hole and inserting the linkage pin into the insertion hole (Fig. 6).

Independent Claim 9 Summary

In reference to pages 3-5, paragraphs 7-13, a linkage support system for a work vehicle is provided. The work vehicle (Figs. 1, 2, and 5) includes a frame (20), ground engaging means (22, 32) for supporting and propelling the frame over a surface (page 3, para. 7), a mast (21), the mast forming a portion of the frame and extending upwardly from another portion of the frame, a boom (50) having a first boom end and a second boom end, the first boom end being pivotally coupled to the mast, a work tool (70) operatively coupled to the second boom end, and a linkage (80) for manipulating the work tool. The linkage support system comprises at least one fastener (130a, 130b) (Fig. 6); a load bearing support (120, 122) located on the mast (Fig. 6); and a linkage pin support (100) (Figs. 3-6). The linkage pin support is removably attached to the load bearing support via the at least one fastener (Fig. 6). The linkage is coupled to the linkage pin support (Fig. 5).

Independent Claim 14 Summary

In reference to pages 3-5, paragraphs 7-13, a linkage support system for a work vehicle is provided. The work vehicle (Figs. 1, 2, and 5) includes a frame (20), ground engaging means (22, 32) for supporting and propelling the frame over a surface (page 3, para. 7), a mast (21), the mast forming a portion of the frame and extending upwardly from another portion of the frame, a boom (50) having a first boom end and a second boom end, the first boom end being pivotally coupled to the mast, a work tool (70) operatively coupled to the second boom end, and a linkage (80) for manipulating the work tool, the linkage support system comprising a linkage pin (110, 111) (Fig. 6); at least one fastener (130a, 130b) (Fig. 6); a load bearing support located on the mast (120, 122) (Fig. 6); and a linkage pin support (100) (Figs. 3-6). The linkage pin support is removably attached to the load bearing support via the at least one fastener (Fig. 6). The linkage is coupled to the linkage pin support (Fig. 5). The linkage pin support includes an access hole (108) and an insertion hole (107) (Fig. 6). The linkage pin is assembled to the linkage pin support

by transporting the linkage pin through the access hole and inserting the linkage pin into the insertion hole (Fig. 6).

Independent Claim 16 Summary

In reference to pages 3-5, paragraphs 7-13, a work vehicle for performing a work operation is provided. The work vehicle (Figs. 1, 2, and 5) comprises a frame (20); ground engaging means (22, 32) for supporting and propelling the frame (page 3, para. 7); a mast (21) extending upwardly from the frame; a boom (50) having a first boom end and a second boom end, the first boom end pivotally coupled to the mast; a work tool (70) operatively coupled to the second boom end; a linkage (80) for manipulating the work tool, the linkage having a first linkage end and a second linkage end; at least one fastener (130a, 130b) (Fig. 6); a load bearing support (120, 122) located on the mast (Fig. 6); and a linkage pin support (100) (Figs. 3-6). The linkage pin support is removably attached to the load bearing support via the at least one fastener (Fig. 6). The first linkage end is coupled to the linkage pin support (Figs. 5 and 6). The second linkage end is coupled to the work tool (Fig. 5).

Independent Claim 17 Summary

In reference to pages 3-5, paragraphs 7-13, a work vehicle for performing a work operation is provided. The work vehicle (Figs. 1, 2, and 5) comprises a frame (20); ground engaging means (22, 32) for supporting and propelling the frame (page 3, para. 7); a mast (21) extending upwardly from the frame; a boom (50) having a first boom end and a second boom end, the first boom end pivotally coupled to the mast; a work tool (70) operatively coupled to the second boom end; a linkage (80) for manipulating the work tool, the linkage having a first linkage end and a second linkage end; a linkage pin (110, 111) (Fig. 6); at least one fastener (130a, 130b) (Fig. 6); a load bearing support (120, 122) located on the mast (Fig. 6); and a linkage pin support (100) (Figs. 3-6). The linkage pin support is removably attached to the load bearing support via the at least one fastener (Fig. 6). The first linkage end is coupled to the linkage pin support (Figs. 5 and 6). The second linkage end is coupled to the work tool (Fig. 5). The linkage pin support includes an access hole (108) and an insertion hole (107) (Fig. 6). The linkage pin is assembled to the linkage pin support by transporting the linkage pin through the access hole and

inserting the linkage pin into the insertion hole (Fig. 6).

Independent Claim 22 Summary

In reference to pages 3-5, paragraphs 7-13, a method of manufacturing a linkage support system for a work vehicle is provided. The work vehicle (Figs. 1, 2, and 5) includes a frame (20), ground engaging means (22, 32) for supporting and propelling the frame over a surface (page 3, para. 7), a mast (21) extending upwardly from the frame, a boom (50) having a first boom end and a second boom end, the first boom end being pivotally coupled to the mast, a work tool (70) operatively coupled to the second boom end, and a linkage (80) for manipulating the work tool, the linkage having a first linkage end and a second linkage end. The method comprises manufacturing a linkage pin support (100) independently and separately from the frame (Figs. 3-6); using a portion of the mast as a load bearing support (120, 122) (Figs. 4-6); and removably attaching the linkage pin support to the load bearing support via at least one fastener (130a, 130b) (Figs. 4-6).

Independent Claim 23 Summary

In reference to pages 3-5, paragraphs 7-13, a method of manufacturing a linkage support system for a work vehicle is provided. The work vehicle (Figs. 1, 2, and 5) includes a frame (20), ground engaging means (22, 32) for supporting and propelling the frame over a surface (page 3, para. 7), a mast (21) extending upwardly from the frame, a boom (50) having a first boom end and a second boom end, the first boom end being pivotally coupled to the mast, a work tool (70) operatively coupled to the second boom end, and a linkage (80) for manipulating the work tool, the linkage having a first linkage end and a second linkage end. The method comprises manufacturing a linkage pin support (100) independently and separately from the frame (Figs. 3-6); using a portion of the mast as a load bearing support (120, 122) (Figs. 4-6); and removably attaching the linkage pin support to the load bearing support via at least one fastener (130a, 130b) (Fig. 6). The linkage pin support system includes a linkage pin (110, 111). The linkage pin support has an access hole (108) and an insertion hole (107). The linkage pin is assembled to the linkage pin support by transporting the linkage pin through the access hole and inserting the linkage pin into the insertion hole (Fig. 6).

Independent Claim 28 Summary

In reference to pages 3-5, paragraphs 7-13, a method of manufacturing a work vehicle is provided. The work vehicle (Figs. 1, 2, and 5) includes a frame (20), ground engaging means (22, 32) for supporting and propelling the frame over a surface (page 3, para. 7), a mast (21) extending upwardly from the frame, a boom (50) having a first boom end and a second boom end, the first boom end being pivotally coupled to the mast, a work tool (70) operatively coupled to the second boom end, and a linkage (80) for manipulating the work tool, the linkage having a first linkage end and a second linkage end. The method comprises manufacturing a linkage pin support (100) independently and separately from the frame (Figs. 3-6); using a portion of the mast as a load bearing support (120, 122) (Figs. 4-6); removably attaching the linkage pin support to the load bearing support via at least one fastener (130a, 130b) (Fig. 6); coupling the first linkage end to the linkage pin support (Fig. 5); and coupling the work tool to the second linkage end (Fig. 5).

GROUNDS OF REJECTION TO BE REVIEWED

The specific grounds of rejection presented for review are (1) the rejection of claims 1, 3, 8, 9, 14-17, 22, 23, 28, and 29 under 35 U.S.C. § 103(a) based on Apgar, U.S. Patent No. 6,168,368, or Abe, U.S. Patent No. 4,858,345, in view of Gilstrap, U.S. Patent No. 5,272,788; and (2) the rejection of claims 21, 27, and 33 under 35 U.S.C. § 103(a) based on Abe in view of Gilstrap and Mandon, U.S. Patent No. 5,746,861.

ARGUMENT

I. Legal Principles of Obviousness

The claims have been rejected under 35 U.S.C. § 103(a) for alleged obviousness based on various combinations of references. It is well settled that, to establish a case of obviousness under § 103, there must be some teaching, suggestion, or motivation for combining the references as proffered by the Office. In other words, the prior art must suggest the desirability of the combination. Without such motivation for combining the references, the obviousness rejection cannot

stand. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002); *In re Sernaker*, 702 F.2d 989, 994-95, 217 USPQ 1, 5-6 (Fed. Cir. 1983); M.P.E.P. §§ 2142-2143.

II. The First Ground of Rejection

A. There is no motivation to combine Apgar or Abe in view of Gilstrap.

A number of claims have been rejected under 35 U.S.C. § 103(a) for alleged obviousness based on Apgar or Abe in view of Gilstrap. One of ordinary skill in the art would not have been motivated to combine Apgar or Abe with Gilstrap in the manner proffered in the 20 March 2006 Office Action.

Apgar discloses a front frame assembly 12 for a construction machine 10 such as an articulated wheel loader. A tilt tower arrangement 92 is secured to a second main support plate 86 at end portions 162 and 90 respectively thereof. There is no disclosure in Apgar that the tilt tower arrangement 92 is removable from the second main support plate 86 via a fastener much less any reason for providing for such removability.

Abe discloses a front frame 50 for an articulated wheel loader. The front frame 50 has a lower frame 20 and an upper frame 40. The upper frame 40 provides pivot points for boom cylinders, beams, and a bucket cylinder and is welded to the lower frame 20 at contact portions B and C. There is no disclosure in Abe that the upper frame 40 is removable from the lower frame 20 via a fastener much less any reason for providing for such removability.

Gilstrap discloses an interchangeable manually operated handle 50 for use with a number of light duty utility tool heads such as a hoe, shovel, rake, pitch fork, broom, etc. The arrangement includes a positive securing means to prevent rotational loosening of the utility tool during use of the tool. The handle 50 (wooden, aluminum, or fiberglass) has a press fitted sleeve 52. The sleeve 52 is a metal tube which houses a female coupling 54 that is permanently fastened to the sleeve 52. The female coupling 54 is internally threaded to receive a male screw threaded end of a tool head shank 58. A key 66 is fitted into keyways 60 and 62 formed in the female coupling 54 and shank 58. A locknut 78 is tightened about the key 66 to prevent rotation of the utility tool.

One of ordinary skill in the art would not have been motivated to modify the

heavy duty construction machine of Apgar or Abe by the light duty manual handle of Gilstrap as proffered in the 20 March 2006 Office Action. The 20 March 2006 Office Action concedes that the support plate 86 and tilt tower arrangement 92 of Apgar are welded together but nonetheless argues that "it would have been obvious to construct these pieces to be screwed together in view of the teaching in Gilstrap that fastening means are interchangeable." Similarly, regarding Abe, the 20 March 2006 Office Action concedes that "20 and 41 [plate of upper frame 40] appear to be welded together" but contends that "it would have been obvious to construct these pieces to be screwed together in view of the teaching in Gilstrap." The disclosure of Gilstrap cited as the referenced "teaching" is found at column 2, lines 59-63 and states as follows:

> "Looking at FIGS. 8 and 9, an interchangeable handle 50 is shown with a press fitted sleeve 52 mounted by mechanical fasteners including rivets, nuts and bolts, etc., or chemical bonding agents. As with the handle 10 it may be wooden, aluminum or fiberglass."

This disclosure merely provides alternative methods of joining the sleeve 52 to the handle 50, and nothing more. It does not stand for the proposition that any and all fastening means are interchangeable and thus obvious variants regardless of the context and purposes for the fastening means. Indeed, it is wholly silent regarding how to couple together components of a heavy duty frame of a construction machine such as an articulated wheel loader. Moreover, it wholly silent with respect to why one of ordinary skill in the art would have been motivated to choose one coupling method for such a heavy duty machine frame application over another. This is, of course, because Gilstrap relates simply to how to couple a hand-held handle to a variety of utility tool heads in a way that will prevent rotative loosening of the head relative to the handle, an application irrelevant to the heavy duty frame constructions of Apgar and Abe. As such, the context and purpose of Gilstrap (context: hand-held light duty tools; purpose: joining handle to multiple heads without rotative loosening) is unrelated to the context and purpose of Apgar and Abe (context: heavy duty construction machinery; purpose: mounting various heavy duty hydraulic cylinders and lift arms).

Further, on a more detailed, structural level, Gilstrap discloses use of its alternative fastening means for structures different from that present in Apgar and

Abe. In particular, as indicated above, Gilstrap's alternative fastening means concern fixing a sleeve 52 around a cylindrical pole-shaped handle 10. The pertinent portions of the heavy duty frames of Apgar and Abe do not include any analogous structures. Neither Apgar's tilt tower arrangement 92 and plate 86 nor Abe's lower and upper frames 20, 40 incorporate such a sleeve-pole assembly.

Thus, Gilstrap relates to a context, purpose, and structure different from Apgar and Abe. One of ordinary skill in the art would thus not have been led to combine Gilstrap with Apgar or Abe.

By contrast, it is the disclosure of the present application, not Apgar or Abe in view of Gilstrap, which explains the desirability of removably attaching a linkage pin support to a load bearing support via at least one fastener. In particular, according to paragraph 5 of the present application, "The invention makes it possible to modify linkage pin locations on a work vehicle without incurring the associated time and cost difficulties of replacing the entire frame or vehicle as the removable linkage pin support may be replaced by another removable linkage pin support of a different configuration." Neither Apgar nor Abe nor Gilstrap suggested this advantage, or any other advantage, to be gained by modifying Apgar or Abe by Gilstrap. Accordingly, one of ordinary skill in the art would not have been motivated to combine Apgar or Abe with Gilstrap in the manner proffered in the 20 March 2006 Office Action.

B. Claims 1, 2, and 4-7

Claim 1 is rejected under 35 U.S.C. § 103(a) based on Apgar or Abe in view of Gilstrap. For at least the reasons discussed above in section II.A., there is no motivation for combining Gilstrap with either Apgar or Abe so as to arrive at the linkage support system of claim 1. As such, Apgar or Abe in view of Gilstrap would have failed to render obvious the linkage support system of claim 1 comprising a "linkage pin support removably attached to the load bearing support via the at least one fastener." The Board is thus urged to reverse the rejection of claim 1 and claims 2 and 4-7 depending therefrom.

C. Claim 3

Claim 3 is rejected under 35 U.S.C. § 103(a) based on Apgar or Abe in view of Gilstrap. For at least the reasons discussed above in section II.A., there is no

motivation for combining Gilstrap with either Apgar or Abe so as to arrive at the linkage support system of claim 3 with its screw. As such, Apgar or Abe in view of Gilstrap would have failed to render obvious the linkage support system of claim 3 "wherein the at least one fastener comprises a screw." The Board is thus urged to reverse the rejection of claims 3.

D. Claim 8

Claim 8 is rejected under 35 U.S.C. § 103(a) based on Apgar or Abe in view of Gilstrap. For at least the reasons discussed above in section II.A., there is no motivation for combining Gilstrap with either Apgar or Abe so as to arrive at the linkage support system of claim 8. Further, both Apgar and Abe fail to disclose an access hole through which a linkage pin is transported for insertion into an insertion hole, and Gilstrap fails to make up for this deficiency of Apgar and Abe. As such, Apgar or Abe in view of Gilstrap would have failed to render obvious the linkage support system of claim 1 comprising a "linkage pin support removably attached to the load bearing support via the at least one fastener, . . . the linkage pin support including an access hole and an insertion hole, the linkage pin being assembled to the linkage pin support by transporting the linkage pin through the access hole and inserting the linkage pin into the insertion hole." The Board is thus urged to reverse the rejection of claim 8.

E. Claims 9-13

Claim 9 is rejected under 35 U.S.C. § 103(a) based on Apgar or Abe in view of Gilstrap. For at least the reasons discussed above in section II.A., there is no motivation for combining Gilstrap with either Apgar or Abe so as to arrive at the linkage support system of claim 9. As such, Apgar or Abe in view of Gilstrap would have failed to render obvious the linkage support system of claim 9 comprising a "linkage pin support being removably attached to the load bearing support via the at least one fastener." The Board is thus urged to reverse the rejection of claim 9 and claims 10-13 depending therefrom.

F. Claim 14

Claim 14 is rejected under 35 U.S.C. § 103(a) based on Apgar or Abe in view

of Gilstrap. For at least the reasons discussed above in section II.A., there is no motivation for combining Gilstrap with either Apgar or Abe so as to arrive at the linkage support system of claim 14. Further, both Apgar and Abe fail to disclose an access hole through which a linkage pin is transported for insertion into an insertion hole, and Gilstrap fails to make up for this deficiency of Apgar and Abe. As such, Apgar or Abe in view of Gilstrap would have failed to render obvious the linkage support system of claim 14 comprising a "linkage pin support being removably attached to the load bearing support via the at least one fastener, . . . the linkage pin support including an access hole and an insertion hole, the linkage pin being assembled to the linkage pin support by transporting the linkage pin through the access hole and inserting the linkage pin into the insertion hole." The Board is thus urged to reverse the rejection of claim 14.

G. Claim 15

Claim 15 is rejected under 35 U.S.C. § 103(a) based on Apgar or Abe in view of Gilstrap. For at least the reasons discussed above in section II.A., there is no motivation for combining Gilstrap with either Apgar or Abe so as to arrive at the linkage support system of claim 15. Further, neither Apgar nor Abe discloses a hydraulics access hole, and Gilstrap fails to make up for this deficiency. As such, Apgar or Abe in view of Gilstrap would have failed to render obvious the linkage support system of claim 15 "wherein the linkage pin support includes a hydraulics access hole for supplying hydraulics to the hydraulic tilt cylinder." The Board is thus urged to reverse the rejection of claim 15.

H. Claims 16 and 18-20

Claim 16 is rejected under 35 U.S.C. § 103(a) based on Apgar or Abe in view of Gilstrap. For at least the reasons discussed above in section II.A., there is no motivation for combining Gilstrap with either Apgar or Abe so as to arrive at the work vehicle of claim 16. As such, Apgar or Abe in view of Gilstrap would have failed to render obvious the work vehicle of claim 16 comprising a "linkage pin support removably attached to the load bearing support via the at least one fastener." The Board is thus urged to reverse the rejection of claim 16 and claims 18-20 depending therefrom.

I. Claim 17

Claim 17 is rejected under 35 U.S.C. § 103(a) based on Apgar or Abe in view of Gilstrap. For at least the reasons discussed above in section II.A., there is no motivation for combining Gilstrap with either Apgar or Abe so as to arrive at the work vehicle of claim 17. Further, both Apgar and Abe fail to disclose an access hole through which a linkage pin is transported for insertion into an insertion hole, and Gilstrap fails to make up for this deficiency of Apgar and Abe. As such, Apgar or Abe in view of Gilstrap would have failed to render obvious the work vehicle of claim 17 comprising a "linkage pin support removably attached to the load bearing support via the at least one fastener, . . . the linkage pin support including an access hole and an insertion hole, the linkage pin being assembled to the linkage pin support by transporting the linkage pin through the access hole and inserting the linkage pin into the insertion hole." The Board is thus urged to reverse the rejection of claim 17.

J. Claim 22

Claim 22 is rejected under 35 U.S.C. § 103(a) based on Apgar or Abe in view of Gilstrap. For at least the reasons discussed above in section II.A., there is no motivation for combining Gilstrap with either Apgar or Abe so as to arrive at the method of manufacturing a linkage support system of claim 22. As such, Apgar or Abe in view of Gilstrap would have failed to render obvious the method of claim 22 comprising "removably attaching the linkage pin support to the load bearing support via at least one fastener." The Board is thus urged to reverse the rejection of claim 22.

K. Claims 23-26

Claim 23 is rejected under 35 U.S.C. § 103(a) based on Apgar or Abe in view of Gilstrap. For at least the reasons discussed above in section II.A., there is no motivation for combining Gilstrap with either Apgar or Abe so as to arrive at the method of manufacturing a linkage support system of claim 23. Further, both Apgar and Abe fail to disclose an access hole through which a linkage pin is transported for insertion into an insertion hole, and Gilstrap fails to make up for this deficiency of

Apgar and Abe. As such, Apgar or Abe in view of Gilstrap would have failed to render obvious the method of claim 23 comprising "removably attaching the linkage pin support to the load bearing support via at least one fastener, . . . wherein the linkage pin support has an access hole and an insertion hole, the linkage pin being assembled to the linkage pin support by transporting the linkage pin through the access hole and inserting the linkage pin into the insertion hole." The Board is thus urged to reverse the rejection of claim 23 and claims 24-26 depending therefrom.

L. Claims 28 and 30-32

Claim 28 is rejected under 35 U.S.C. § 103(a) based on Apgar or Abe in view of Gilstrap. For at least the reasons discussed above in section II.A., there is no motivation for combining Gilstrap with either Apgar or Abe so as to arrive at the method of manufacturing a work vehicle of claim 28. As such, Apgar or Abe in view of Gilstrap would have failed to render obvious the method of claim 28 comprising "removably attaching the linkage pin support to the load bearing support via at least one fastener." The Board is thus urged to reverse the rejection of claim 28 and claims 30-32 depending therefrom.

M. Claim 29

Claim 29 is rejected under 35 U.S.C. § 103(a) based on Apgar or Abe in view of Gilstrap. For at least the reasons discussed above in section II.A., there is no motivation for combining Gilstrap with either Apgar or Abe so as to arrive at the method of manufacturing a work vehicle of claim 29. Both Apgar and Abe fail to disclose an access hole through which a linkage pin is transported for insertion into an insertion hole, and Gilstrap fails to make up for this deficiency of Apgar and Abe. As such, Apgar or Abe in view of Gilstrap would have failed to render obvious claim 29 "wherein . . . the linkage pin support includes an access hole and an insertion hole, the linkage pin being assembled to the linkage pin support by transporting the linkage pin through the access hole and inserting the linkage pin into the insertion hole." The Board is thus urged to reverse the rejection of claim 29.

II. The Second Ground of Rejection.

A. Claim 21

Claim 21 is rejected under 35 U.S.C. § 103(a) based on Abe in view of Gilstrap and Mandon. According to the 20 March 2006 Office Action, "Abe's pin support comprises a space which broadly comprises a hole." However, there is no disclosure in Abe that any such hole is a hydraulics access hole for supplying hydraulics to a hydraulic cylinder. Gilstrap and Mandon are equally silent in this regard. As such, Abe in view of Gilstrap and Mandon would have failed to render obvious the work vehicle of claim 21 "wherein the linkage pin support includes a hydraulics access hole for supplying hydraulics to the hydraulic tilt cylinder." The Board is thus urged to reverse the rejection of claim 21.

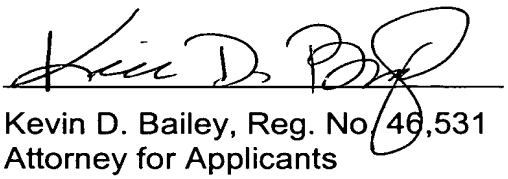
B. Claim 27

Claim 27 is rejected under 35 U.S.C. § 103(a) based on Abe in view of Gilstrap and Mandon. According to the 20 March 2006 Office Action, "Abe's pin support comprises a space which broadly comprises a hole." However, there is no disclosure in Abe that any such hole is a hydraulics access hole for supplying hydraulics to a hydraulic cylinder. Gilstrap and Mandon are equally silent in this regard. As such, Abe in view of Gilstrap and Mandon would have failed to render obvious the linkage support system manufacturing method of claim 27 "further comprising providing a hydraulics access hole in the linkage pin support and supplying hydraulics to the hydraulic tilt cylinder via the access hole." The Board is thus urged to reverse the rejection of claim 27.

C. Claim 33

Claim 33 is rejected under 35 U.S.C. § 103(a) based on Abe in view of Gilstrap and Mandon. According to the 20 March 2006 Office Action, "Abe's pin support comprises a space which broadly comprises a hole." However, there is no disclosure in Abe that any such hole is a hydraulics access hole for supplying hydraulics to a hydraulic cylinder. Gilstrap and Mandon are equally silent in this regard. As such, Abe in view of Gilstrap and Mandon would have failed to render obvious the work vehicle manufacturing method of claim 33 "further comprising providing a hydraulics access hole in the linkage pin support and supplying hydraulics to the hydraulic tilt cylinder via the access hole." The Board is thus urged to reverse the rejection of claim 33.

Respectfully submitted,



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CLAIMS APPENDIX

1. A linkage support system for a work vehicle, the work vehicle including a frame, a work tool, and a linkage for manipulating the work tool, the frame having a left mast portion and a right mast portion, the linkage support system comprising:

at least one fastener;

a load bearing support, the load bearing support being a portion of the frame located between the left mast portion and the right mast portion; and

a linkage pin support, the linkage pin support removably attached to the load bearing support via the at least one fastener, the linkage coupled to the linkage pin support.

2. The linkage support system of claim 1, further comprising a reinforced area of the frame wherein the load bearing support is the reinforced area.

3. The linkage support system of claim 1, wherein the at least one fastener comprises a screw.

4. The linkage support system of claim 1, wherein the linkage pin support comprises an integrated linkage pin support.

5. The linkage support system of claim 4, wherein the integrated linkage pin support comprises at least two metal parts, the at least two metal parts being welded together.

6. The linkage support system of claim 4, wherein the integrated linkage pin support comprises a single metal casting.

7. The linkage support system of claim 1, further comprising a boom, the boom comprising:

a left boom portion having a first left boom end and a second left boom end;

a right boom portion having a first right boom end and a second right boom end; and

a cross tube, the first left boom end and the first right boom end respectively and pivotally connected to the left mast portion and the right mast portion, the second left boom end and the second right boom end pivotally connected to the work tool, the cross tube rigidly connecting the left boom portion and the right boom portion.

8. A linkage support system for a work vehicle, the work vehicle including a frame, a work tool, and a linkage for manipulating the work tool, the frame having a left mast portion and a right mast portion, the linkage support system comprising:

a linkage pin;

at least one fastener;

a load bearing support, the load bearing support being a portion of the frame located between the left mast portion and the right mast portion; and

a linkage pin support, the linkage pin support removably attached to the load bearing support via the at least one fastener, the linkage coupled to the linkage pin support, the linkage pin support including an access hole and an insertion hole, the linkage pin being assembled to the linkage pin support by transporting the linkage pin through the access hole and inserting the linkage pin into the insertion hole.

9. A linkage support system for a work vehicle, the work vehicle including a frame, ground engaging means for supporting and propelling the frame over a surface, a mast, the mast forming a portion of the frame and extending upwardly from another portion of the frame, a boom having a first boom end and a second boom end, the first boom end being pivotally coupled to the mast, a work tool operatively coupled to the second boom end, and a linkage for manipulating the work tool, the linkage support system comprising:

at least one fastener;

a load bearing support located on the mast; and

a linkage pin support, the linkage pin support being removably attached to the load bearing support via the at least one fastener, the linkage being coupled to the linkage pin support.

10. The linkage support system of claim 9, wherein the linkage includes a first linkage end and a second linkage end, the first linkage end being coupled to the linkage pin support, the second linkage end being coupled to the work tool.

11. The linkage support system of claim 9, wherein the linkage includes a power tilt device, the power tilt device being coupled to the linkage pin support, the power tilt device powering the linkage.

12. The linkage support system of claim 11, wherein the power tilt device comprises a hydraulic tilt cylinder.

13. The linkage support system of claim 9, wherein the frame comprises the load bearing support.

14. A linkage support system for a work vehicle, the work vehicle including a frame, ground engaging means for supporting and propelling the frame over a surface, a mast, the mast forming a portion of the frame and extending upwardly

from another portion of the frame, a boom having a first boom end and a second boom end, the first boom end being pivotally coupled to the mast, a work tool operatively coupled to the second boom end, and a linkage for manipulating the work tool, the linkage support system comprising:

a linkage pin;

at least one fastener;

a load bearing support located on the mast; and

a linkage pin support, the linkage pin support being removably attached to the load bearing support via the at least one fastener, the linkage being coupled to the linkage pin support, the linkage pin support including an access hole and an insertion hole, the linkage pin being assembled to the linkage pin support by transporting the linkage pin through the access hole and inserting the linkage pin into the insertion hole.

15. The linkage support system of claim 12, wherein the linkage pin support includes a hydraulics access hole for supplying hydraulics to the hydraulic tilt cylinder.

16. A work vehicle for performing a work operation, the work vehicle comprising:

a frame;

ground engaging means for supporting and propelling the frame;

a mast extending upwardly from the frame;

a boom having a first boom end and a second boom end, the first boom end pivotally coupled to the mast;

a work tool operatively coupled to the second boom end;

a linkage for manipulating the work tool, the linkage having a first linkage end and a second linkage end;

at least one fastener

a load bearing support located on the mast; and

a linkage pin support, the linkage pin support removably attached to the load bearing support via the at least one fastener, the first linkage end being coupled to the linkage pin support, the second linkage end being coupled to the work tool.

17. A work vehicle performing a work operation, the work vehicle comprising:

a frame;

ground engaging means for supporting and propelling the frame;

a mast extending upwardly from the frame;

a boom having a first boom end and a second boom end, the first boom end pivotally coupled to the mast;

a work tool operatively coupled to the second boom end;

a linkage for manipulating the work tool, the linkage having a first linkage end and a second linkage end;

a linkage pin;

at least one fastener;

a load bearing support located on the mast; and

a linkage pin support, the linkage pin support removably attached to the load bearing support via the at least one fastener, the first linkage end being coupled to the linkage pin support, the second linkage end being coupled to the work tool, the linkage pin support including an access hole and an insertion hole, the linkage pin being assembled to the linkage pin support by transporting the linkage pin through the access hole and inserting the linkage pin into the insertion hole.

18. The work vehicle of claim 16, wherein the linkage pin support is an integrated linkage pin support.

19. The work vehicle of claim 16, wherein the linkage comprises:

a power tilt device; and

a straight lever, the power tilt device having a first tilt device end and a second tilt device end, the first tilt device end being pivotally coupled to the linkage pin support, the second tilt device end being operatively coupled to the straight lever.

20. The work vehicle of claim 19, wherein the power tilt device comprises a hydraulic tilt cylinder.

21. The work vehicle of claim 20, wherein the linkage pin support includes a hydraulics access hole for supplying hydraulics to the hydraulic tilt cylinder.

22. A method of manufacturing a linkage support system for a work vehicle, the work vehicle including a frame, ground engaging means for supporting and propelling the frame over a surface, a mast extending upwardly from the frame, a boom having a first boom end and a second boom end, the first boom end being pivotally coupled to the mast, a work tool operatively coupled to the second boom end, and a linkage for manipulating the work tool, the linkage having a first linkage end and a second linkage end, the method comprising:

manufacturing a linkage pin support independently and separately from the frame;

using a portion of the mast as a load bearing support; and

removably attaching the linkage pin support to the load bearing support via at least one fastener.

23. A method of manufacturing a linkage support system for a work vehicle, the work vehicle including a frame, ground engaging means for supporting and propelling the frame over a surface, a mast extending upwardly from the frame, a boom having a first boom end and a second boom end, the first boom end being pivotally coupled to the mast, a work tool operatively coupled to the second boom end, and a linkage for manipulating the work tool, the linkage having a first linkage end and a second linkage end, the method comprising:

manufacturing a linkage pin support independently and separately from the frame;

using a portion of the mast as a load bearing support; and

removably attaching the linkage pin support to the load bearing support via at least one fastener, wherein the linkage pin support system includes a linkage pin and wherein the linkage pin support has an access hole and an insertion hole, the linkage pin being assembled to the linkage pin support by transporting the linkage pin through the access hole and inserting the linkage pin into the insertion hole.

24. The method of claim 22, further comprising coupling the first linkage end to the integrated linkage pin support and coupling the second linkage end to the work tool.

25. The method of claim 24, further comprising including a power tilt device and a straight lever in the linkage, the power tilt device having a first tilt device end and a second tilt device end, coupling the first tilt device end to the integrated linkage pin support, and coupling the second tilt device to the straight lever.

26. The method of claim 25, further comprising providing a hydraulic tilt cylinder as the power tilt device.

27. The method of claim 26, further comprising providing a hydraulics access hole in the linkage pin support and supplying hydraulics to the hydraulic tilt cylinder via the access hole.

28. A method of manufacturing a work vehicle, the work vehicle including a

frame, ground engaging means for supporting and propelling the frame over a surface, a mast extending upwardly from the frame, a boom having a first boom end and a second boom end, the first boom end being pivotally coupled to the mast, a work tool operatively coupled to the second boom end, and a linkage for manipulating the work tool, the linkage having a first linkage end and a second linkage end, the method comprising:

manufacturing a linkage pin support independently and separately from the frame;

using a portion of the mast as a load bearing support;

removably attaching the linkage pin support to the load bearing support via at least one fastener;

coupling the first linkage end to the linkage pin support; and

coupling the work tool to the second linkage end.

29. The method of claim 28, wherein the work vehicle includes a linkage pin and the linkage pin support includes an access hole and an insertion hole, the linkage pin being assembled to the linkage pin support by transporting the linkage pin through the access hole and inserting the linkage pin into the insertion hole.

30. The method of claim 28, further comprising:

providing the mast with a left mast portion and a right mast portion; and locating the load bearing support between the left mast portion and the right mast portion.

31. The method of claim 28, further comprising:

including a hydraulic tilt cylinder and a straight lever in the linkage, the hydraulic tilt cylinder having a first tilt cylinder end and a second tilt cylinder end;

coupling the first tilt cylinder end to the linkage pin support; and

coupling the second tilt cylinder end to the straight lever.

32. The method of claim 28, further comprising manufacturing the linkage pin support as an integrated linkage pin support.

33. The method of claim 31, further comprising including a hydraulic access hole in the linkage pin support and supplying hydraulics to the hydraulic tilt cylinder via the hydraulic access hole.

EVIDENCE APPENDIX

No information is included in this appendix.

RELATED PROCEEDINGS APPENDIX

No information is included in this appendix.